Third West air monitor results
Shepherd, Michael
to:
Joyce Ackerman, Craig Bamitz (cbamitz@utah.gov)
09/23/2011 02:53 PM
Hide Details
From: "Shepherd, Michael" <Michael.Shepherd@PacifiCorp.com>

To: Joyce Ackerman/R8/USEPA/US@EPA, "Craig Bamitz (cbamitz@utah.gov)" <cbamitz@utah.gov>

2 Attachments

220438-1.pdf Third West Weekly Log 2011-36.pdf

Joyce & Craig,

Attached are the air monitoring results for 9/6 – 9/8. All results came back negative.
Also attached are the activities for this timeframe.

The circus has put a damper on construction this week. Our contractor plans to dig the first hole in the exclusion zone on Monday, next week.

Please let me know if you have any questions.

Thanks,

Mike Shepherd
Project Manager
Rocky Mountain Power - Major Projects
801.220.4584 Office
801.631.1310 Cell
801.220.2797 Fax
michael.shepherd@pacificorp.com

REI LAB Reservoirs Environmental, Inc.

September 20, 2011

Laboratory Code:	RES
Subcontract Number:	NA
Laboratory Report:	RES 220438-1
Project # / P.O. #	None Given
Project Description:	3rd West Substation Rocky Mtn. Power

Eldon Romney
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 220438-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 220438-1
Client: R & R Environmental
Client Project Number / P.O.: None Given
Client Project Description: 3rd West Substation Rocky Mtn. Power
Date Samples Received: September 12, 2011
Analysis Type: TEM, AHERA
Turnaround: 3-5 Day
Date Samples Analyzed: September 19, 2011

Client ID Number	Lab ID Number		Area Analyzed (mm^2)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm^2)
3W-090611-E	EM	794424	0.0990	818	ND	0.0048	BAS	BAS
3W-090611-S	EM	794425	0.0990	818	ND	0.0048	BAS	BAS
3W-090611-W	EM	794426	0.1100	760	ND	0.0046	BAS	BAS
3W-090611-N	EM	794427	0.0990	818	ND	0.0048	BAS	BAS
3W-090711-E	EM	794428	0.0990	814	ND	0.0048	BAS	BAS
3W-090711-S	EM	794429	0.0990	814	ND	0.0048	BAS	BAS
3W-090711-W	EM	794430	0.0990	814	ND	0.0048	BAS	BAS
3W-090711-N	EM	794431	0.0990	792	ND	0.0049	BAS	BAS
3W-090811-E	EM	794432	0.1100	582	ND	0.0060	BAS	BAS
3W-090811-S	EM	794433	0.1100	582	ND	0.0060	BAS	BAS
3W-090811-W	EM	794434	0.1100	584	ND	0.0060	BAS	BAS
3W-090811-N	EM	794435	0.1100	584	ND	0.0060	BAS	BAS

NA = Not Analyzed
ND = None Detected
BAS = Below Analytical Sensitivity
Average Grid Opening in mm^2 = 0.011

Filter Material = Mixed Cellulose Ester
Filter Diameter = 25 mm
Effective Filter Area = 385 sq mm

Digitally signed by Gina Veltsino
Date: 2011 09 20 09 04:58 - 06'00'

DATA QA

Due Date: 9-15-9.19
Due Time: 1080a 05

Reservoirs Environmental, inc.

RES 220438

5601 Logan St. Denver, CO 80216 • Ph: 303 964-1986 • Fax 303-477-4276 • Toll Free :866 RESI-ENV
Pager : 303-609-20m

INVOICE TO: (IF DIFFERENT)		CONTACT INFORMATION:	
Company: R & R Environmental	Company:	Contact: Dave Roskelley	Contact: Justin Kurgis
Address: 47 W. 9000 S	Address:	Phone: 801 541-1035	Phone: 801 878-5279
Sandy, Ut 84070		Fax	Fax
		Cell/pager:	Cell/pager:
Project Number and/or P.O. #:		Final Data Deliverable Email Address:	
Project Description/Location: 3rd West Substation - Rocky Mtn. Power		dave@rrenviro.com	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm
PLM / PCM (TEM) ___ RUSH (Same Day) ___ PRIORITY (Next Day) X STANDARD (Rush PCM = 2hr, TEM = 6hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm
Metal(s) / Dust ___ RUSH ___ 24 hr. ___3-5 Day
RCRA 8 / Metals & Welding Fume Scan / TCLP ___ RUSH ___ 6 day ___10 day
Organics ___ 24 hr. ___ 3 day ___5 Day
Prior notification is required for RUSH turnarounds.

MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm
E.coli O157:H7, Coliforms, S.aureus ___ 24 hr ___2 Day ___3-6 Day
Salmonella, Listeria, E.coli, APC, Y & M ___ 48 Hr. ___3-5 Day
Mold ___ RUSH ___24 Hr ___48 Hr ___3 Day ___6 Day

Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for after hours, weekends and holidays.

Special Instructions:

VALID MATRIX CODES

Air = A	Bulk = B
Dust = D	Paint = P
Soil = S	Wipe = W
Swab = SW	F = Food
Drinking Water = DW	Waste Water = WW
O = Other	

ASTM E1792 approved wipe media only

Client sample ID number (Sample ID's must be unique)	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/- Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	MICROBIOLOGY: Salmonella: +/-	E.coli O157:H7: +/-	Listeria: +/-	Aerobic Plate Count: +/- or Quantification	E.coli: +/- or Quantification	Coliforms: +/- or Quantification	S.aureus: +/- or Quantification	Y & M: +/- or Quantification	Mold: +/-, Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM Number (Laboratory Use Only)
1																	818	A		9/6/11		7944241
2	3W-090611-S		X														818					25
3	3W-090611-W																760					26
4	3W-090611-N																818					27
5	3W-090711-E																814			9/7/11		28
6	3W-090711-S																814					29
7	3W-090711-W																814					30
8	3W-090711-N																792					31
9	3W-090811-E																582			9/8/11		32
10	3W-090811-S																584			9/8/11		33

Number of samples received: 12 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: [signature] - Fed-Ex Date/Time:
Laboratory Use Only
Received By: [signature] Date/Time: 9-12-11 10:05 Carrier FedEx

Sample Condition: On Ice Yes / No; Sealed Yes / No; Intact Yes / No; Temp. (F°) ____

Results: Contact Dave Phone Email Fax Date 9/19/11 Time 12:30p Initials JK

Contact Phone Email Fax Date Time Initials

Contact Phone Email Fax Date Time Initials

Contact Phone Email Fax Date Time Initials

TRK# - 7974 9909 7904

Due Date:_____
Due Time:_____

Reservoirs Environmental, Inc.

5601 Logan St. Denver, CO 80216 • Ph: 303 964-1966 • Fax 303-477-4279 • Toll Free :866 RESI-ENV
Pager : 303-609-2098

Job # 220438
Page 1 of 2

INVOICE TO: (IF DIFFERENT) | **CONTACT INFORMATION:**

Company: R & R	Company:	Contact	Contact
Address:	Address:	Phone:	Phone:
		Fax	Fax:
		Cell/pager	Cell/pager
Project Number and/or P.O. #:		Final Data Deliverable Email Address:	
Project Description/Location: 3rd West Sub station - Rocky Mtn. Power			

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm

PLM / PCM / TEM ____ RUSH (Same Day) ___ PRIORITY (Next Day) ___STANDARD (Rush PCM = 2hr, TEM = 8hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm

Metal(s) / Dust ___ RUSH ___ 24 hr. ___3-5 Day
RCRA 8 / Metals S Welding Fume Scan / TCLP ___ RUSH ___ 5 day ___10 day
Organics ___ 24 hr. ___ 3 day ___5 Day

Prior notification is required for RUSH turnerounds.

MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm

E.coli O157:H7, Coliforms, S.aureus ___ 24 hr. ___2 Day ___3-5 Day
Salmonella, Listeria, E.coli, APC, Y & M ___ 48 Hr. ___3-5 Day
Mold ___ RUSH ___24 Hr ___48 Hr ___3 Day ___5 Day

Turnaround times establish laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.

Special Instructions:

REQUESTED ANALYSIS

Client sample ID number (Sample ID's must be unique)	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	MICROBIOLOGY: Salmonella: +/-	E.coli O157:H7: +/-	Listeria: +/-	Aerobic Plate Count: +/- or Quantification	E.coli: +/- or Quantification	Coliforms: +/- or Quantification	S.aureus: +/- or Quantification	Y & M: +/- or Quantification	Mold: +/-, Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM Number (Laboratory Use Only)
1 3W-090811-W		X															584	A		9/8/11		794434
2 3W-090811-N		X															584	A		9/8/11		35
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

VALID MATRIX CODES

Air = A	Bulk = B
Dust = D	Paint = P
Soil = S	Wipe = W
Swab = SW	F = Food
Drinking Water = DW	Waste Water = WW
O = Other	

ASTM E1792 approved wipe media only

LAB NOTES:

Number of samples received: _____ (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: Date/Time:

Sample Condition: On Ice Yes / No Sealed Yes / No Intact Yes / No
Temp. (F°) _____

Laboratory Use Only
Received By: Date/Time: Cooler

Results:	Contact	Phone	Email	Fax	Date	Time	Initials	Contact	Phone	Email	Fax	Date	Time	Initials
	Contact	Phone	Email	Fax	Date	Time	Initials	Contact	Phone	Email	Fax	Date	Time	Initials

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type.

Asbestos Type	Structure Tyoes
A = Amosite	F = Fiber
An = Anthophyllite	B = Bundle
C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
T = Tremolite	

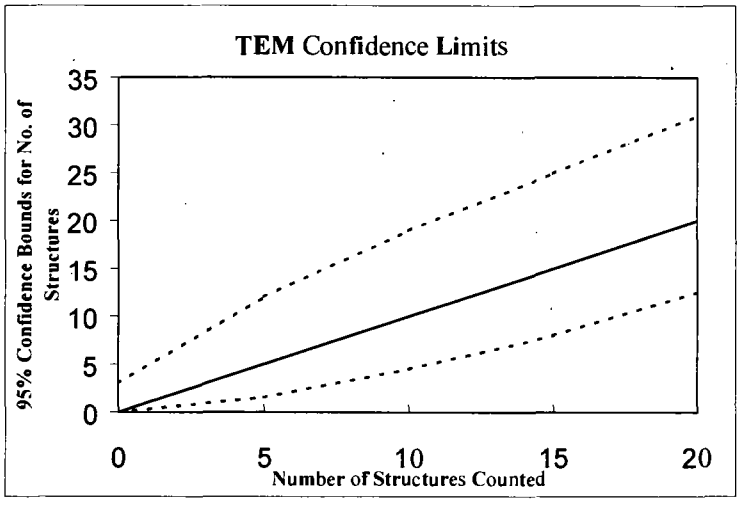
ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr	Paul D. LoScalzo
Nathan DelHierro	Mark Steiner
Angela Heitger	Norberto Zimbleman
Jonathan Bernard	Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	n/a
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	818
Date received by lab	9/12/11
Lab Job Number:	220438
Lab Sample Number:	7944 24

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	9/19/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AHT
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H5-6	ND												
	G5-6	ND												
	F5-6	ND					Pmp A	50% chrysotile		3-5% debris				
	F5-1	ND					Pmp B-A							
	E5-1	ND							9/19/11					
B	K4-6	ND												
	H4-6	ND												
	L5-3	ND												
	M5-3	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	n/a
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	818
Date received by lab	9/12/11
Lab Job Number:	220438
Lab Sample Number:	7944 25

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JTB
Analysis date	9/19/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	G5-1	ND												
	F5-1	ND												
	E5-1	ND					Pmp A	60% in bunt		3-5%	debris			
	C5-1	ND					Pmp B	60% in bunt		3-5	% debris			
	B5-1	ND						4 Bunt		9/19/11				
B	L4-3	ND												
	K4-3	ND												
	H4-3	ND												
	K5-1	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	n/a
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	760
Date received by lab	9/12/11
Lab Job Number:	220438
Lab Sample Number:	7944 20

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	9/19/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AHT
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K3-3	ND												
	H3-3	ND												
	G3-3	ND					Prep A				80% int + 3-5% debris			
	F3-3	ND					Prep B = A							
	C3-3	ND						JB 9/19/11						
B	H2-4	ND												
	G2-4	ND												
	K2-6	ND												
	H2-6	ND												
	G3-6	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	n/a
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	818
Date received by lab	9/12/11
Lab Job Number:	220438
Lab Sample Number:	7144 22

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	
Analysis date	9/19/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	E4-4	ND												
	C4-4	ND					Prep A	~50% material		5-7% debris				
	B4-4	ND					Prep B	50% material		5-7% debris				
	C4-6	ND									AB 9/19/11			
	C3-1	ND												
B	K4-3	ND												
	H4-6	ND												
	H4-3	ND												
	G4-6	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	n/a
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	814
Date received by lab	9/2/11
Lab Job Number:	220438
Lab Sample Number:	7944 28

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	9/9/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AHT
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H4-6	ND												
	G4-6	ND												
	F4-6	ND									Prep A 80% loaded 3-5% debris			
	G3-6	ND									Prep B 90% loaded 3-5% debris			
	F3-6	ND												
B	H4-4	ND									JB 9/9/11			
	G4-4	ND												
	F4-4	ND												
	E4-4	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	n/a
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	814
Date received by lab	9/2/11
Lab Job Number:	220438
Lab Sample Number:	744429

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	9/19/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	I
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K4-1	ND												
	H4-1	ND					Prep A	90% in hunt			3-5% debris			
	G4-1	ND					Prep B	80% in hunt			3-5% debris			
	F4-1	ND							JB		7/19/11			
	E4-1	ND												
B	K5-4	ND												
	H5-4	ND												
	G5-4	ND												
	F5-4	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	n/a
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	814
Date received by lab	9/12/11
Lab Job Number:	220438
Lab Sample Number:	7144 30

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	9/19/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Alt
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	G3-1	ND												
	F3-1	ND												
	E3-1	ND					Pump A	90% intact		3-5% debris				
	C3-1	ND					Pump C	70% intact		3-5% debris				
	C4-4	ND						JB 9/19/11						
C	L5-1	ND												
	K5-1	ND												
	H5-1	ND												
	G5-1	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	n/a
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	792
Date received by lab	9/12/11
Lab Job Number:	220438
Lab Sample Number:	7144 31

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	9/19/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	L5-1	ND												
	H5-1	ND						Prep A 90% in tmk		5-7% in tmk				
	K5-1	ND						Prep B 60% in tmk		5-7% debris				
	G5-1	ND								JB 9/19/11				
	F5-1	ND												
B	G3-1	ND												
	F3-1	ND												
	E3-1	ND												
	F3-3	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.

TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	n/a
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	582
Date received by lab	9/12/11
Lab Job Number:	220438
Lab Sample Number:	7944 32

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	9/19/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K4-3	ND												
	H4-3	ND					Pmp	A		80% in tmt	3-5% debris			
	G4-3	ND					Pmp	B		95% in tmt	3-5% debris			
	F4-3	ND												
	F5-3	ND												
B	K4-3	ND												
	H4-3	ND												
	G4-3	ND												
	F4-3	ND												
	E4-3	ND												

B 9/19/11

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.

TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	n/a
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	584
Date received by lab	9/12/11
Lab Job Number:	220438
Lab Sample Number:	794433

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	9/19/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K5-1	ND												
	H5-1	ND			Prep A 90% homogenous				3-5%		debris			
	G5-1	ND			Prep B ~ A									
	F5-1	ND						B 9/19 JB						
	E5-1	ND												
	C5-1	ND												
B	G3-6	ND												
	F3-6	ND												
	E3-6	ND												
	C3-6	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	n/a
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	5 84
Date received by lab	9/12/11
Lab Job Number:	220438
Lab Sample Number:	7144 34

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	9/19/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K4-4	ND												
	H4-4	ND			Pmp	A	80% in tant			3-5% debris				
	G4-4	ND			Pmp	B	70% in tant			3-5% debris				
	F4-4	ND						JB 9/19/11						
	E4-4	ND												
B	H2-3	ND												
	G2-3	ND												
	F2-3	ND												
	E2-3	ND												
	C2-6	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	n/a
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	584
Date received by lab	9/12/11
Lab Job Number:	220438
Lab Sample Number:	794435

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JTB
Analysis date	9/19/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	F3-6	ND												
	E3-6	ND									Pump A ~90% in tuft 3-5% debris			
	C3-6	ND									Pump B ~1 JTB 9/19/11			
	F4-3	ND												
	E4-3	ND												
B	H3-1	ND												
	G3-1	ND												
	F3-1	ND												
	E3-1	ND												
	E2-1	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50^{th} structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm^2 clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, } mm^2 = \#\text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\#\text{ Asbestos Structures}}{\#\text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area } (mm^2)}{\text{Average GO area } (mm^2)} \times \frac{1L}{1000cc}$$

$$\text{Filter loading, s/mm2} = \frac{\#\text{ Asbestos structures}}{\text{Area Analyzed } (mm^2)}$$

GO = TEM grid opening

File: Shared on server T/Offforms.sg/AHERA Procedures
Revised: 02/27/02

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild **DATE :** Tuesday, September 6, 2011

PO & Work Order NO. : 3000078050 / 10035803 **MAIN CONTRACTOR :** RMP

Crew Start Time:	7:00	**Crew Stop Time:**	15:35	**Tot Hrs mns:**	8:35
FCR Start Time:	6:45	**FCR Stop Time:**	16:00	**Tot Hrs mns:**	9:15

Use *military time* format ***00:00***

WEATHER CONDITIONS: Partly Cloudy - 85 degrees

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

CVE crew returned to remove the copper bus from the old 4 kV switchgear. They also removed the grounds from the No. 1 46 kv Getaway. A site meeting was held with CVE, R&R, Eagle, and myself to discuss the setting up of the conex for the decon room. A conex will be delivered on Tuesday, 9/7 and Eagle will begin the build-out of the showers and the decon and clean zones. A fence crew is scheduled to install a temporary fence on the west side of the existing control building which will allow crews to work in Zone 1 and Zone 2 without FR clothing. The CVE crew has demobed again and will not return until such time as they work on the 12 kV getaway to the TRAX sub-station. It sounds like this may need to be accomplished during a night outage, and perhaps on a week-end. R&R performed air monitoring.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time:	Manny LuHaun 0650
Dispatcher logout, name and time:	Val Christensen 1600

DISCREPANCIES:	**IMMEDIATE CORRECTIVE ACTION TAKEN:**

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

Pickup, portable toilet, forklift, 2 dumpsters, office trailer, conex, line truck, bucket truck, crew truck

OSHA Recordable Safety Incidents:	**Reported by:**	**Time:**

ROCKY MOUNTAIN POWER
A DIVISION OF PACIFICORP

Russ Johnson
Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild **DATE :** Wednesday, September 7, 2011

PO & Work Order NO. : 3000078050 / 10035803 **MAIN CONTRACTOR :** RMP

Crew Start Time:	6:50	**Crew Stop Time:**	17:35	**Tot Hrs mns:**	10:45
FCR Start Time:	6:45	**FCR Stop Time:**	17:40	**Tot Hrs mns:**	10:55

Use military time format 00:00

WEATHER CONDITIONS: Sunny - 85 degrees

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

Received conex for setting up the decon/shower/clean room for accessing the exclusion zones. Newman brought a backhoe and a water truck to level the area where the conex was set up. Eagle set up the infrastructure in the conex to delineate clean/shower/decon areas. Eagle also placed vinyl reinforced visqueen on the fence around zone 1 (north area). CVE removed the distribution transformers and oil cutouts from the 4 kV switchgear structure and they will be delivered to DEMC on Thursday.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time:	Barry Nielson 0645
Dispatcher logout, name and time:	Barry Nielson 1740

DISCREPANCIES:	**IMMEDIATE CORRECTIVE ACTION TAKEN:**

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

Pickup, portable toilet, forklift, 2 dumpsters, office trailer, conex, exclusion zone conex

OSHA Recordable Safety Incidents:	**Reported by:**	**Time:**

ROCKY MOUNTAIN POWER
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Russ Johnson
Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild **DATE :** Thursday, September 8, 2011

PO & Work Order NO. : 3000078050 / 10035803 **MAIN CONTRACTOR :** RMP

Crew Start Time:	8:00	**Crew Stop Time:**	16:30	**Tot Hrs mns:**	8:30
FCR Start Time:	6:40	**FCR Stop Time:**	16:40	**Tot Hrs mns:**	10:00

Use military time format *00:00*

WEATHER CONDITIONS: Sunny - 85 degrees

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

CVE crew moved service box from the east side of Zone 1 to the west side to provide construction power to the work zone and to the shower conex. Newman Construction delivered a 1000 gallon water wagon for providing water to the shower facility. CVE fabricator foreman came by to visit the site and make plans for delivery of rebar and construction materials and trailers on Friday. CVE delivered a trailer load of lumber.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time:	Mike Spence 0640
Dispatcher logout, name and time:	Gus Montanez 1625

DISCREPANCIES:	**IMMEDIATE CORRECTIVE ACTION TAKEN:**

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

Pickup, portable toilet, forklift, 2 dumpsters, office trailer, conex, exclusion zone conex, water wagon, line truck, bucket truck, crew truck

OSHA Recordable Safety Incidents:	**Reported by:**	**Time:**

ROCKY MOUNTAIN POWER
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Russ Johnson
Field Construction Representative